#7

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RAW SEQUENCE LISTING   DATE: 01/27/2002
PATENT APPLICATION: US/09/780,929   TIME: 15:28:18

       Input Set : A:\MBHB00,884-H SequenceListing.txt
       Output Set: N:\CRF3\01272002\I780929.raw   p5

```
 3 <110> APPLICANT: Ribozyme Pharmaceuticals, Inc        p.5
 4        Breaker, Ronald
 5        Beigelman, Leo
 7 <120> TITLE OF INVENTION: Nucleic Acid Catalysts with Endonuclease Activity
 9 <130> FILE REFERENCE: MBHB00-884-H (500/001)
11 <140> CURRENT APPLICATION NUMBER: 09/780,929
12 <141> CURRENT FILING DATE: 2001-02-08
14 <150> PRIOR APPLICATION NUMBER: US 60/181,360
15 <151> PRIOR FILING DATE: 2000-02-08               ENTERED
17 <160> NUMBER OF SEQ ID NOS: 126
19 <170> SOFTWARE: PatentIn version 3.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 28
23 <212> TYPE: RNA
24 <213> ORGANISM: Artificial Sequence
26 <220> FEATURE:
27 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
29 <220> FEATURE:
30 <221> NAME/KEY: misc_feature
31 <222> LOCATION: (1)..(6)
32 <223> OTHER INFORMATION: 2'-O-Methyl  _____
34 <220> FEATURE:
35 <221> NAME/KEY: misc_feature
36 <222> LOCATION: (21)..(27)
37 <223> OTHER INFORMATION: 2'-O-Methyl
39 <220> FEATURE:
40 <221> NAME/KEY: misc_feature
41 <222> LOCATION: (28)..(28)
42 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
44 <400> SEQUENCE: 1
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W--> 45 `ggaguaagau aacgugaaga ucaggacn`   28

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48 <210> SEQ ID NO: 2
49 <211> LENGTH: 28
50 <212> TYPE: RNA
51 <213> ORGANISM: Artificial Sequence
53 <220> FEATURE:
54 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
56 <220> FEATURE:
57 <221> NAME/KEY: misc_feature                              /
58 <222> LOCATION: (1)..(5)
59 <223> OTHER INFORMATION: 2'-O-Methyl
61 <220> FEATURE:
62 <221> NAME/KEY: misc_feature
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 63 <222> LOCATION: (21)..(27)
 64 <223> OTHER INFORMATION: 2'-O-Methyl
 66 <220> FEATURE:
 67 <221> NAME/KEY: misc_feature
 68 <222> LOCATION: (28)..(28)
 69 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
 71 <400> SEQUENCE: 2
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W--> 72 ggaguaagau aacgugaaga ucaggacn   28
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 75 <210> SEQ ID NO: 3
 76 <211> LENGTH: 27
 77 <212> TYPE: RNA
 78 <213> ORGANISM: Artificial Sequence
 80 <220> FEATURE:
 81 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
 83 <400> SEQUENCE: 3
 84 ggaguaagau aacgugaaga ucaggac                                         27
 87 <210> SEQ ID NO: 4
 88 <211> LENGTH: 28
 89 <212> TYPE: RNA
 90 <213> ORGANISM: Artificial Sequence
 92 <220> FEATURE:
 93 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
 95 <220> FEATURE:
 96 <221> NAME/KEY: misc_feature
 97 <222> LOCATION: (1)..(5)
 98 <223> OTHER INFORMATION: 2'-O-Methyl
100 <220> FEATURE:
101 <221> NAME/KEY: misc_feature
102 <222> LOCATION: (22)..(27)
103 <223> OTHER INFORMATION: 2'-O-Methyl
105 <220> FEATURE:
106 <221> NAME/KEY: misc_feature
107 <222> LOCATION: (28)..(28)
108 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
110 <400> SEQUENCE: 4
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W--> 111 ggaguaagau aacgugaaga ucaggacn   28
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114 <210> SEQ ID NO: 5
115 <211> LENGTH: 28
116 <212> TYPE: RNA
117 <213> ORGANISM: Artificial Sequence
119 <220> FEATURE:
120 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
122 <220> FEATURE:
123 <221> NAME/KEY: misc_feature
124 <222> LOCATION: (1)..(5)
125 <223> OTHER INFORMATION: 2'-O-Methyl
127 <220> FEATURE:
128 <221> NAME/KEY: misc_feature
129 <222> LOCATION: (23)..(27)
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Input Set : A:\MBHB00,884-H SequenceListing.txt
Output Set: N:\CRF3\01272002\I780929.raw

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    132 <220> FEATURE:
    133 <221> NAME/KEY: misc_feature
    134 <222> LOCATION: (28)..(28)
    135 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
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    142 <211> LENGTH: 28
    143 <212> TYPE: RNA
    144 <213> ORGANISM: Artificial Sequence
    146 <220> FEATURE:
    147 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    149 <220> FEATURE:
    150 <221> NAME/KEY: misc_feature
    151 <222> LOCATION: (1)..(4)
    152 <223> OTHER INFORMATION: 2'-O-Methyl
    154 <220> FEATURE:
    155 <221> NAME/KEY: misc_feature
    156 <222> LOCATION: (24)..(27)
    157 <223> OTHER INFORMATION: 2'-O-Methyl
    159 <220> FEATURE:
    160 <221> NAME/KEY: misc_feature
    161 <222> LOCATION: (28)..(28)
    162 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    164 <400> SEQUENCE: 6
W--> 165 ggaguaagau aacgugaaga ucaggacn                                      28
    168 <210> SEQ ID NO: 7
    169 <211> LENGTH: 28
    170 <212> TYPE: RNA
    171 <213> ORGANISM: Artificial Sequence
    173 <220> FEATURE:
    174 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    176 <220> FEATURE:
    177 <221> NAME/KEY: misc_feature
    178 <222> LOCATION: (1)..(4)
    179 <223> OTHER INFORMATION: 2'-O-Methyl
    181 <220> FEATURE:
    182 <221> NAME/KEY: misc_feature
    183 <222> LOCATION: (23)..(27)
    184 <223> OTHER INFORMATION: 2'-O-Methyl
    186 <220> FEATURE:
    187 <221> NAME/KEY: misc_feature
    188 <222> LOCATION: (28)..(28)
    189 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    191 <400> SEQUENCE: 7
W--> 192 ggaguaagau aacgugaaga ucaggacn                                      28
    195 <210> SEQ ID NO: 8
    196 <211> LENGTH: 28
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              RAW SEQUENCE LISTING              DATE: 01/27/2002
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              Input Set : A:\MBHB00,884-H SequenceListing.txt
              Output Set: N:\CRF3\01272002\I780929.raw
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    198 <213> ORGANISM: Artificial Sequence
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    201 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    203 <220> FEATURE:
    204 <221> NAME/KEY: misc_feature
    205 <222> LOCATION: (1)..(6)
    206 <223> OTHER INFORMATION: 2'-O-Methyl
    208 <220> FEATURE:
    209 <221> NAME/KEY: misc_feature
    210 <222> LOCATION: (20)..(27)
    211 <223> OTHER INFORMATION: 2'-O-Methyl
    213 <220> FEATURE:
    214 <221> NAME/KEY: misc_feature
    215 <222> LOCATION: (28)..(28)
    216 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    218 <400> SEQUENCE: 8
W--> 219 ggaguaagau aacgugaaga ucaggacn                                    28
    222 <210> SEQ ID NO: 9
    223 <211> LENGTH: 28
    224 <212> TYPE: RNA
    225 <213> ORGANISM: Artificial Sequence
    227 <220> FEATURE:
    228 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    230 <220> FEATURE:
    231 <221> NAME/KEY: misc_feature
    232 <222> LOCATION: (1)..(6)
    233 <223> OTHER INFORMATION: 2'-O-Methyl
    235 <220> FEATURE:
    236 <221> NAME/KEY: misc_feature
    237 <222> LOCATION: (12)..(12)
    238 <223> OTHER INFORMATION: 2'-O-Methyl
    240 <220> FEATURE:
    241 <221> NAME/KEY: misc_feature
    242 <222> LOCATION: (21)..(27)
    243 <223> OTHER INFORMATION: 2'-O-Methyl
    245 <220> FEATURE:
    246 <221> NAME/KEY: misc_feature
    247 <222> LOCATION: (28)..(28)
    248 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    250 <400> SEQUENCE: 9
W--> 251 ggaguaagau aacgugaaga ucaggacn                                    28
    254 <210> SEQ ID NO: 10
    255 <211> LENGTH: 28
    256 <212> TYPE: RNA
    257 <213> ORGANISM: Artificial Sequence
    259 <220> FEATURE:
    260 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    262 <220> FEATURE:
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RAW SEQUENCE LISTING   DATE: 01/27/2002
PATENT APPLICATION: US/09/780,929   TIME: 15:28:18

Input Set : A:\MBHB00,884-H SequenceListing.txt
Output Set: N:\CRF3\01272002\I780929.raw

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    263 <221> NAME/KEY: misc_feature
    264 <222> LOCATION: (1)..(7)
    265 <223> OTHER INFORMATION: 2'-O-Methyl
    267 <220> FEATURE:
    268 <221> NAME/KEY: misc_feature
    269 <222> LOCATION: (21)..(27)
    270 <223> OTHER INFORMATION: 2'-O-Methyl
    272 <220> FEATURE:
    273 <221> NAME/KEY: misc_feature
    274 <222> LOCATION: (28)..(28)
    275 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    277 <400> SEQUENCE: 10
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    281 <210> SEQ ID NO: 11
    282 <211> LENGTH: 28
    283 <212> TYPE: RNA
    284 <213> ORGANISM: Artificial Sequence
    286 <220> FEATURE:
    287 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    289 <220> FEATURE:
    290 <221> NAME/KEY: misc_feature
    291 <222> LOCATION: (1)..(6)
    292 <223> OTHER INFORMATION: 2'-O-Methyl
    294 <220> FEATURE:
    295 <221> NAME/KEY: misc_feature
    296 <222> LOCATION: (21)..(27)
    297 <223> OTHER INFORMATION: 2'-O-Methyl
    299 <220> FEATURE:
    300 <221> NAME/KEY: misc_feature
    301 <222> LOCATION: (28)..(28)
    302 <223> OTHER INFORMATION: n stands for inverted deoxyabasic derivative
    304 <400> SEQUENCE: 11
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    308 <210> SEQ ID NO: 12
    309 <211> LENGTH: 28
    310 <212> TYPE: RNA
    311 <213> ORGANISM: Artificial Sequence
    313 <220> FEATURE:
    314 <223> OTHER INFORMATION: Description of Artificial Sequence: Enzymatic Nucleic Acid
    316 <220> FEATURE:
    317 <221> NAME/KEY: misc_feature
    318 <222> LOCATION: (1)..(6)
    319 <223> OTHER INFORMATION: 2'-O-Methyl
    321 <220> FEATURE:
    322 <221> NAME/KEY: misc_feature
    323 <222> LOCATION: (18)..(18)
    324 <223> OTHER INFORMATION: 2'-O-Methyl
    326 <220> FEATURE:
    327 <221> NAME/KEY: misc_feature
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Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY   DATE: 01/27/2002
PATENT APPLICATION: US/09/780,929   TIME: 15:28:19

Input Set : A:\MBHB00,884-H SequenceListing.txt
Output Set: N:\CRF3\01272002\I780929.raw

```
L:45 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:72 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:111 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:165 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:192 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:278 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:305 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:406 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:434 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:466 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:498 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:530 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:589 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:621 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:648 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25
L:801 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26
L:838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:922 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
L:964 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30
L:1007 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1049 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32
L:1091 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34
L:1175 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35
L:1217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:1259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37
L:1301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38
L:1338 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:1385 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40
L:1432 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:1479 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1526 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43
L:1578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44
L:1620 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
L:1667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:1719 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47
L:2360 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:100
L:2362 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:100
```

VERIFICATION SUMMARY   DATE: 01/27/2002
PATENT APPLICATION: US/09/780,929   TIME: 15:28:19

Input Set : **A:\MBHB00,884-H SequenceListing.txt**
Output Set: **N:\CRF3\01272002\I780929.raw**

L:2391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102